

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 2-42, 44 and 45 are pending in the present application Claims 2-5, 10, 11, 14, 17-19, 21-24, 26, 27 and 36 are amended, Claims 1 and 43 are cancelled and Claims 44 and 45 are added by the present amendment. Support for the foregoing amendment and addition can be found in the claims as originally filed. Thus, no new matter is added.

In the outstanding Office Action, Claims 1-7, 23, 32, 42 and 43 are rejected under 35 U.S.C. § 103(a) as unpatentable over Delerue et al. (EP 0961523 A1, herein "Delerue") in view of O'Connell (U.S. Pat. No. 5,331,111) and Mitsuhashi et al. (U.S. Pat. No. 5,127,306, herein "Mitsuhashi"); Claims 8 and 9 are rejected under 35 U.S.C. § 103(a) as unpatentable over Delerue, O'Connell, Mitsuhashi in view of MusicSpace application (Copyright 1998, herein "MusicSpace"); Claims 10, 14-18, 26, 31, 33, 26-38 and 40 are rejected under 35 U.S.C. § 103(a) as unpatentable over Delerue, O'Connell, Mitsuhashi in view of Lydecker et al. (U.S. Pat. App. No. 2003/0028273, herein "Lydecker"); Claims 11-13 are rejected under 35 U.S.C. § 103(a) as unpatentable over Delerue, O'Connell, Mitsuhashi in view of Tsuji et al. (WO 99/50466, herein "Tsuji"); Claims 19, 20, 22 are rejected under 35 U.S.C. § 103(a) as unpatentable over Delerue, O'Connell, Mitsuhashi in view of Bargen, B. et al. ("Inside DirectX", Microsoft Press, Redmond, WA, 1998., pages 3-9, 26-29, 203-205, 223-233, 241-247, 249-266, herein "Bargen"); Claim 21 is rejected under 35 U.S.C. § 103(a) as unpatentable over Delerue, O'Connell, Mitsuhashi in view of Beard et al. (U.S. Pat. No. 5,451,942, herein "Beard"); Claims 24, 25, 39 and 41 are rejected under 35 U.S.C. § 103(a) as unpatentable over Delerue, O'Connell, Mitsuhashi in view of Lydecker and Beard; and

Claims 27-30, 34 and 35 U.S.C. § 103(a) as unpatentable over Delerue, O'Connell, Mitsuhashi in view of Lydecker and Bargen.

Initially, Applicants and Applicants' representatives thank Examiner Flanders for the courtesy of the interview conducted on September 7, 2006. During the interview, differences between the claims and the disclosure in Delerue and O'Connell were discussed. Further, claim amendments to clarify the claimed features were also discussed. The present response sets forth the discussed claim amendments and the following remarks set forth the discussed differences.

Before turning to the outstanding prior art rejections, it is believed that a brief review of the present invention would be helpful.

The present invention describes a system for controlling an audio spatialisation in real time. In a non-limiting example, shown in Figure 1, the system includes a storage unit that stores audio streams composed of a plurality of audio sources associated to audio tracks.¹ A constraint solver that receives and processes constraints expressing rules for a spatialisation of said audio stream.² An interface used to enter spatialisation commands to the constraint solver.³ Figure 4 shows a non-limiting example of the interface.

The exemplary interface allows users to decide where audio sources will be located with respect to user. Additionally, the interface allows the user to effect a grouped spatialisation command in which the spatialisation command works on a group of audio sources. This group of audio sources is then processed in the constraint solver as a unitary object for the application of constraint variables. Further, the user can displace one or a number of presented groups of audio sources through collective commands.

¹ Figure 1.

² Specification, Page 1, first paragraph.

³ Figure 4.

Turning now to the §103(a) rejection of independent Claim 1 in the outstanding Office Action, Applicants respectfully traverse the §103(a) rejection based on Delerue, O'Connell, and Mitsuhashi for the following reasons.

Claim 44 recites, in part,

a constraint unit configured to receive and process constraints expressing rules for a spatialisation of said audio stream; and

an interface unit configured to enter spatializing commands to said constraint unit,

wherein said interface unit enters at least one user input for effecting a spatialisation command on one audio source in a group of two or more audio sources,

the spatialisation command is effected on the audio sources based on the position of the graphical representation of the audio sources on the display,

said constraint unit is programmed to process said group of two or more audio sources as a unitary object for the application of the constraints, and

when a user moves the position of one audio source in said group of two or more audio sources, an algorithm sets the position on the display for the other audio sources in the group of two or more audio sources based on the constraints.

Independent Claim 45 recites similar features.

Delerue describes a music spatialisation system and method. Further, Delerue describes a user input for affecting a single spatialisation command, where the user can only move one sound source at a time through the graphical interface.⁴ An algorithm is used to adapt the variables for the other sounds sources based on constraints.

O'Connell describes a sound model generator with a graphical programming engine. In O'Connell, icons relate to different sound treatments⁵ and icon locations are defined to obtain a more convenient display.⁶ Further, each icon has a signal entry, provides a given signal treatment, and provides an output signal based on this treatments. Thus, O'Connell

⁴ Delerue, paragraphs 0033 and 0034.

⁵ O'Connell, Figs. 24-28.

⁶ O'Connell, Col. 50.

describes that icons can be merged to facilitate motion of the icon on a graphical display for clarity reasons.

Mitsuhashi applies to a single instrument generating the different sound sources as if they all originated from a same undefined space point.

However Delerue, O'Connell, and Mitsuhashi considered alone or together in any proper combination do not describe or suggest said constraint unit is programmed to process said group of two or more audio sources as a unitary object for the application of the constraints and when a user moves the position of one audio source in said group of two or more audio sources, an algorithm sets the position on the display for the other audio sources in the group of two or more audio sources based on the constraints.

As discussed in the interview, this claim further recites that when a user moves the position of one audio source in said group of two or more audio sources, an algorithm sets the position on the display for the other audio sources in the group of two or more audio sources based on the constraints.

However, Delerue, O'Connell, and Mitsuhashi considered individually or in any proper combination do not describe this feature.

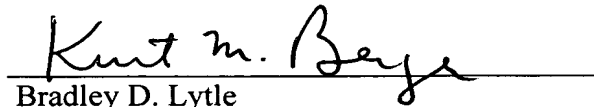
Accordingly, Applicants respectfully submit that independent Claim 44 and similarly Claim 45 and claims depending therefrom patentably distinguish over Delerue, O'Connell, and Mitsuhashi considered alone or together in any proper combination.

Moreover, with respect to the further dependent claims, in light of the above discussion, Applicant respectfully submits that those claims also distinguish over the applied art, particularly as none of these further cited teachings to Lydecker, Beard and Bargen are believed to overcome the above-noted deficiencies of Delerue, O'Connell, and Mitsuhashi.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read "Kurt M. Berger", is written over a horizontal line.

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